Name:

at1113exam: Expand, factor, and solve quadratics (v218)

1. Expand the following expression into standard form.

$$(4x - 3)^2$$

$16x^2 - 12x - 12x + 9$

$16x^2 - 24x + 9$

2. Expand the following expression into standard form.

$$(9x - 7)(9x + 7)$$

$81x^2 + 63x - 63x - 49$

$81x^2 - 49$

3. Expand the following expression into standard form.

$$(4x - 7)(5x + 9)$$

$20x^2 + 36x - 35x - 63$

$20x^2 + x - 63$

4. Solve the equation.

$$(8x + 9)(5x - 4) = 0$$

$x = \frac{-9}{8}$ $x = \frac{4}{5}$

5. Solve the equation with factoring by grouping.

$$20x^2 - 15x - 8x + 6 = 0$$

$$(5x - 2)(4x - 3) = 0$$

$$x = \frac{2}{5} \qquad x = \frac{3}{4}$$

6. Factor the expression.

$$64x^2 - 9$$

$$(8x + 3)(8x - 3)$$

7. Factor the expression.

$$x^2 + 3x - 28$$

$$(x - 4)(x + 7)$$

8. Solve the equation.

$$6x^2 + 13x + 14 = 4x^2 + 2x + 5$$

$$2x^2 + 11x + 9 = 0$$

$$(2x + 9)(x + 1) = 0$$

$$x = \frac{-9}{2} \qquad x = -1$$